

REMARKS

Applicants respectfully request reconsideration of the present application in view of the reasons that follow.

No claims have been amended. Claims 1-11 remain pending in this application.

Rejection under 35 U.S.C. § 103

Claims 1-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,342,762 to Young et al. (“Young”) in view of U.S. Patent No. 4,435,219 to Greigiger et al (“Greigiger”), U.S. Patent No. 5,693,690 to Hayashi et al. (“Hayashi”) and, as evidence U.S. Patent No. 5,624,998 to Itoh et al (“Itoh”). Applicants respectfully traverse this rejection for at least the following reasons.

The references cited in the rejection fail to suggest the coloring coating agent of independent claim 1, which comprises a pigment comprised of a red rouge pigment, where the red rouge pigment has a particle size of 0.1 to 0.3 μm , nor would such an agent be obvious in view of the advantages of such a coloring agent with the recited particle size range, advantages which must be considered by the Patent Office when determining non-obviousness.

The Office Action relies on Hayashi and Itoh for disclosing iron oxide particle sizes. Applicants submit, however, that claim 1, with its recited particle size range, is not obvious in view of Hayashi or Itoh, particularly in light of the advantages flowing from the recited range.

Hayashi does not disclose the claimed average particle size range of red rouge pigment of 0.1 to 0.3 μm . Instead, Hayashi discloses an average particle size for iron oxide particles size in its resin or rubber composition of 0.05 to 1.0 μm . With respect to the limits of this size range, Hayashi discloses that if the average particle diameter is less than 0.05 μm , it is difficult to disperse iron oxide particles into the rubber or thermoplastic resin, and if the particle diameter exceeds 1.0 μm , processability is lowered (col. 4, line 64 to col. 5, line 2).

Hayashi, however, fails to recognize the importance of the iron oxide particle size and other composition parameters in thermal cracking resistance, and stable long term yellow

luminescence, as in the claimed coloring coating agent of claim 1. The coloring coating agent of claim 1 with the recited particle size provides a film with excellent thermal cracking resistance, and stable long term yellow luminescence, for example, when the red rouge pigment has a particle size of 0.1 to 0.3 μm (See Summary of Invention and Examples in the specification). Thus, the composition of claim 1 is not obvious in view of Hayashi.

Moreover, the Patent Office must consider the advantages of the invention which flow from the claimed components and range of particle size, such as chromaticity, as well as excellent thermal cracking resistance and stable long term yellow luminescence, when determining patentability. By using a red rouge pigment and yellow organic pigment in the mixing ratio recited in claim 1, the yellowish red color standardized by JIS may be realized even if the red rouge pigment size is larger than 0.1 μm as is shown in Comparative Examples 13 and 14. This mixing ratio results in chromaticity and thermal fading resistance (See page 5, lines 21-31 of the instant specification). Moreover, by limiting the red rouge pigment size to larger than 0.1 μm , the amount of added pigment needed to achieve the objective chromaticity can be reduced (See FIG. 1 and page 6, lines 5-14). A thinner film may then be used to achieve the objective chromaticity (See FIG. 1 and page 6, lines 15-24). Thus, cracking during formation of the film may be avoided since a thinner film is sufficient (See page 6, line 25 to page 7, line 6).

The properties of excellent thermal cracking resistance, and stable long term yellow luminescence, also flow from the claimed components and range of particle size of the red rouge pigment. The lower limit of the range allows for excellent thermal cracking resistance (See specification, bridging paragraph, pages 5-6), while the upper limit of the range provides for good transparency (See specification, page 7, first full paragraph), which along with the yellow organic pigment of the coating agent allows for stable long term yellow luminescence. Since these properties flow from the structure and composition of the claimed coating agent, they must be considered when the invention of claim 1 is considered as a whole, as is required under a proper obviousness analysis. (See MPEP 2141.02).

Moreover, while the Office Action mailed May 10, 2005 states that the iron oxide of Hayashi provides a resin composition with suppressed deterioration, Hayashi does not disclose that this suppressed deterioration is due to the particle diameter. Instead, Hayashi discloses the suppressed deterioration to be due to the shape of the particles, the presence of silicon within the particles, and the presence of silicon on the particle surfaces (col. 8, lines 43-48). Thus, Hayashi does not suggest any relationship between suppressed deterioration and particle size.

Itoh fails to cure the deficiencies of Hayashi. Itoh only teaches that metal oxide particle diameter is an important factor in producing a transparent aqueous gel (col. 5, lines 34-37). Itoh does not recognize the importance of iron oxide particle size and other composition parameters in thermal cracking resistance, and stable long term yellow luminescence, as in the claimed coloring coating agent of claim 1. Thus, the composition of claim 1 is not obvious in view of Itoh. Moreover, the preferable particle range disclosed in Itoh is 0.001 – 0.1 μm , outside the range in claim 1.

Independent claim 9 is directed to a pigment mixture for use in a coloring coating agent, and recites “a red rouge pigment having a spherical particle shape and a particle size of 0.1 to 0.3 μm .” Claim 9 is patentable for reasons analogous to claim 1.

The dependent claims ultimately depend from one of independent claims 1 and 9, and are patentable for at least the same reasons, as well as for further patentable features recited therein.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a

check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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